

Amendments to the Specification:

Please amend the paragraphs starting at page 6, line 20 and ending at page 10, line 5 to read, as follows.

--In the first aspect of the present invention, there is provided an image processing method for determining a conversion relationship by using patches, the conversion relationship relating to a generation of color material data for an image output apparatus that outputs an image by using a plurality of kinds of color material including a plurality of color materials of a a ~~[[the]]~~ same color but differing ~~different~~ in concentration, the method comprising the steps of:

providing a maximum total color material use amount which is determined by taking into account an adhesion characteristic of each of the plurality of kinds of color material to a printing medium used when the image output apparatus outputs the patches;

determining, for each of the patches, a combination of data for the plurality of kinds of color material constituting a a ~~[[the]]~~ patch within a range of the maximum total color material use amount; and

determining a predetermined conversion relationship relating to the generation of color material data of the plurality of kinds of color material including a plurality of color materials of a a ~~[[the]]~~ same color but differing ~~different~~ in concentration, on the basis of colorimetric values of the patches which are outputted based on the determined combinations of data for the plurality of kinds of color material for the patches.

In the second aspect of the present invention, there is provided an image processing apparatus for determining a conversion relationship by using patches, the conversion relationship relating to a generation of color material data for an image output apparatus



that outputs an image by using a plurality of kinds of color material including a plurality of color materials of a a ~~[[the]]~~ same color but differing ~~different~~ in concentration, the apparatus comprising:

holding means for holding a maximum total color material use amount which is determined by taking into account an adhesion characteristic of each of the plurality of kinds of color material to a printing medium used when the image output apparatus outputs the patches;

combination determining means for, for each of the patches, determining a combination of data for the plurality of kinds of color material constituting a ~~[[the]]~~ patch within a range of the maximum total color material use amount; and

color separation means for determining a predetermined conversion relationship relating to the generation of color material data of the plurality of kinds of color material including a plurality of color materials of the same color but differing ~~different~~ in concentration, on the basis of colorimetric values of the patches which are outputted based on the determined combinations of data for the plurality of kinds of color material for the patches.

According to the above configuration, a ~~[[the]]~~ maximum total amount of color materials used is determined taking into account the characteristics of adhesion of the plurality of plural types of color materials used in an image output apparatus to output images, to print media used to output the patches. Then, the patches are outputted by determining a combination of data on the plural types of color materials which data is required to output the patches, without exceeding the maximum total amount of color materials used. Then, on the basis of colorimetric values for the respective patches, a



predetermined conversion relationship such as a color separation table is determined which is associated with generation of data for the plurality of plural types of color materials including a plurality of color materials having the same color but differing in concentration. ~~different concentrations.~~ Accordingly, this conversion relationship is based on the colorimetric values for the patches which are appropriately outputted in terms of the characteristics of adhesion of ink or toner to print media. Further, a printing operation can be performed while making the best of a color space composed of the plurality of plural types of color materials.

The maximum total amount of color materials used is determined taking into account the characteristics of adhesion of the plural types of color materials used by an image output apparatus to output images to print media used to output the patches. Then, a ~~[[the]]~~ defined total color material use amount is determined as an amount within a ~~[[the]]~~ maximum total color material use amount, for restricting the consumption of the color materials. Then, the patches are outputted by determining a combination of data on plurality of plural types of color materials used to output the patches without exceeding the defined total color material use amount. Then, on the basis of colorimetric values for the respective patches, a predetermined conversion relationship such as a color separation table is determined which is associated with generation of data for the plurality of plural types of color materials including a plurality of color materials having the same color but differing in concentration. ~~different concentrations.~~ Therefore, a printing operation can be performed in which the consumption of color materials such as ink or toner is restricted, while making the best of a color space composed of plural types of color materials within the range of the restricted consumption.--